Abstract

An illumination system for a microlithography projection exposure apparatus has a light distribution device (21), which generates a two-dimensional intensity distribution from the light from a primary light source, for example a laser, in a first surface (25) of the illumination system. A fly's eye condenser (55) having a first and a second raster arrangement (40) of optical elements serves as a light mixing device for homogenizing the illumination in the illumination field of the illumination system. The fly's eye condenser has a first raster arrangement (35) of first raster elements (36) and also a second raster arrangement (40) of second raster elements (41). The light distribution device comprises at least one diffractive optical element (21) for generating an angular distribution whose far field has separate or contiguous luminous zones which are coordinated with the form and size of the first raster elements (36).

(In this respect figure 1)